



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-636-011
Job Sheet 165073



Part No: D350-636-011

Job Qty: 1 ea

Part Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

CHG 007



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV G SHEETS 1,2,4,8 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07.13 As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23 revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD VEF:JLM

Ship Via:

Bill of Materials

Part/Part Name	Part Note	Serial No	Quantity	Location
D350-636-011 Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.	DWG REV G SHEETS 1,2,4,8 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07.13 As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23 revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD VEF:JLM		0.000	
ALS4-1032-225 Rivnut	DWG REV B		0.000	
AN3C5A Bolt			0.000	
AN3C6A Bolt			0.000	
AN6C44A Bolt			0.000	
AN8C21A Bolt			0.000	
AN8C35A Bolt			0.000	
D2600-3-BENT-LH Extrusion Bent LH	DWG D2750 REV G SHEET 4, D2600 REV E IPP REV:A 14.01.14 NEW ISSUE DD VEF:JLM		0.000	
D2739 350 I-Beam	DWG REV E IPP Rev: C 02.11.28 Reformat KJ IPP Rev: D 06-03-21 As Per Rev C JLM IPP Rev: E 07-07-28 As per Rev D JLM Verified By: IPP Rev:F 10.11.02 as per revE DD verf:EC		0.000	
D2741 Replacement Blade	DWG REV E IPP Rev: D 00.11.15 Removed P/O turning - in house process EC IPP Rev: E 06-03-20 As Per Rev C JLM IPP Rev: F		0.000	
D2743 Crossbolt Spacer	DWG REV B IPP E 05.04.13 Reformat; removed tumble and deburr step KJ/JLM		0.000	
D2744 Cap	DWG REV C IPP C 03.01.17 Reformat; Dwg re Waterjet 06-06-16 JLM IPP Rev:E As per Rev			
D2745 Bushing	DWG REV B IPP C 02.03.07 Update to turn in Removed tumbling JLM Ver			
D3488-041 Blade Fitting LH	DWG DSK101 REV D, D3488 REV B IPP Rev:. Rev:B As per Rev B 06-03-30 JLM IPP Rev:C Verified BY:DD			
D3490-1 Cross Bolt Spacer	DWG REV A IPP Rev:A New Issi			
D3490-3 Cross Bolt Spacer	DWG REV A IPP Rev:A New Issi			
D3492-1 Plug	DWG REV E IPP Rev:A 11.04.19 per			

Status: Stock

Part: **D350-636-011 B165073**

Created: 9/30/17 12:44 PM DART.MICHAUD-
FEBRILLE.VICTORIA



Serial No: **S000167**

Printed By: Goldston, Justin 10/2/17 10:45 AM

DART
AEROSPACE
S002058

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Skidtube LH, Std Wearplates, DART (Apical)
Cylindrical/Aerazur Float Comp.

PART NO: D350 - 636 - 011

Revision:

Operation:

Quantity:

Change No:

Start up Operation

1

Mfg Date: 10/25/17

Job No: 165073

D3492-3	DWG REV E IPP Rev:A 11.04.19 per dwg revC DD verf:EC	0.000
Plug		
D3493-1	DWG REV A IPP Rev: A New Issue 06-02-28 JLM	0.000
Washer		
D3532-1	DWG REV A IPP Rev:A New Issue 06-07-12 EC	0.000
Spacer		
D3535-25	DWG REV B U/R IPP Rev:A New Issue 07-02-15 JLM IPP Rev:B As per Rev B 07-08-31 JLM Verified By:EC	0.000
Wearplate Center		
D3536-25	DWG REV A IPP Rev:A New Issue 07-02-14 JLM	0.000
Gasket Center		
D3537-1	DWG REV E IPP Rev:A New Issue 07-02-14 JLM IPP REV:B 15.10.16 added automated welding DD verf:JLM	0.000
Wearpad		
D3631-1	DWG REV A IPP Rev:A New Issue 07-07-28 JLM Verified By:EC	0.000
Washer		
D3791-1	DWG REV A IPP Rev:A 08-05-13 new issue DD verified by:EC IPP Rev:B 08-05-22 revA as per dwg ECN1191 DD verified by:EC	0.000
Wearpad		
D3793-1	DWG REV A IPP Rev:A 08-05-13 new issue DD verified by:EC IPP Rev:B 08-05-23 revA as per dwg DD verified by:EC	0.000
Wearplate Fwd		
D3793-3	DWG REV A IPP Rev:A 08-05-13 new issue DD verified by:EC IPP Rev:B 08-05-23 revA as per dwg DD verified by:EC	0.000
Wearplate Aft		
D3794-1	DWG REV A IPP Rev:A 08-05-13 new issue DD verified by:EC IPP Rev:B 08-05-23 revA as per dwg DD verified by:EC	0.000
Gasket Fwd		
D3794-3	DWG REV A IPP Rev:A 08-05-13 new issue DD verified by:EC IPP Rev:B 08-05-23 revA as per dwg DD verified by:EC	0.000
Gasket Aft		
MS21043-6		0.000
Nut		
MS21083C8		0.000
Nut		
MS21083C8		0.000
Nut		
NAS1149C0332R		0.000
Washer		
NAS1149C0832R		0.000
Washer		
NAS1149D0863J		0.000
Washer		
NAS1515H3L		0.000
Washer		
NAS1611-010		0.000
O-Ring		
NAS1611-013		0.000
O-Ring		

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/30/17	0.00	0.00	Start up container	
160	Skidtubes	1 pcs	10/30/17	0.00	4.55	Skidtubes	
210	QC	1 pcs	10/30/17	0.00	0.00	QC14	12/10/25
230	HandFinish	1 pcs	10/31/17	0.00	0.93	HandFinish4	BEB 12/10/25
240	QC	1 pcs	10/31/17	0.00	0.00	QC5	38
250	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging1	9-85
260	QC	1 pcs	10/31/17	0.00	0.00	QC4	7.11
270	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	
280	QC21-FG	1 Ea	10/31/17	0.00	0.00	QC21	

Part Op 160 - 1-Open up holes using hole saw of Detail C and ground handling to 0.625" (total of 8 holes per side) as per dwg Descriptions: D2750. 2-Open up holes using hole saw of Detail B to 0.750" (total of 4 holes per side) 3- Open float hole using un-bit to 0.500" (4 per side) 4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750 (welding instructions on sheet 8) 5-Deburr and blow out all chips from inside of tube 6- Prepare tube for welding, remove alodine as required. 7-Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R exp. date: _____ ***ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 8) A/R 9- At section AJ-AJ drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D2750 11-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750 12-Deburr holes, ensure tube is free of all scratches before sending to paint.

210 - Inspect for foreign object per QSI 024

230 - 1- Install inserts as per Dwg D2750 2-Inspect for Foreign Objects 3- Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: _____ EXP DATE: _____ 4- Assemble o'ring to plug as per dwg D3492 and apply o'ring lube 5- Coat all exposed fasteners with "LPS Procyon" batch: _____
 260 - *****ensure antiseize is on AN8C21A bolts*****
 270 - Package as per PPP D350-636-011 Location : FG072

Job BOM

Part / Item	Component Name	Quantity	Operation	Special Comments
D350-636-011 B165073 (500167)		1 Ea (1 ea)	90-Start up Operation	
ALS4-1032-225 (5001940)	Rivnut	38 Ea (38 ea)	160-Skidtubes	
AN3C5A (5001942)	Bolt	34 Ea (34 ea)	230-HandFinish	
AN3C6A (5001944)	Bolt	4 Ea (4 ea)	230-HandFinish	
AN6C44A (5001947)	Bolt	4 Ea (4 ea)	230-HandFinish	
AN8C35A (5001948)	Bolt	1 Ea (1 ea)	230-HandFinish	
D2745 (F161760)	Bushing	8 Ea (8 ea)	230-HandFinish	
D3488-041 (5001951)	Blade Fitting LH	1 Ea (1 ea)	230-HandFinish	
D3492-1 (5001952)	Plug	8 Ea (8 ea)	230-HandFinish	
D3492-3 (5001954)	Plug	8 Ea (8 ea)	230-HandFinish	
D3535-25 (5001956)	Wearplate Center	1 Ea (1 ea)	230-HandFinish	
D3536-25 (5001958)	Gasket Center	1 Ea (1 ea)	230-HandFinish	
D3537-1 (5001960)	Wearpad	3 Ea (3 ea)	230-HandFinish	
D3631-1 (5001961)	Washer	8 Ea (8 ea)	230-HandFinish	
D3791-1 (5001962)	Wearpad	1 Ea (1 ea)	230-HandFinish	
D3793-1 (5001964)	Wearplate Fwd	1 Ea (1 ea)	230-HandFinish	
D3793-3 (5001965)	Wearplate Aft	1 Ea (1 ea)	230-HandFinish	
D3794-1 (5001966)	Gasket Fwd	1 Ea (1 ea)	230-HandFinish	
D3794-3 (5001967)	Gasket Aft	1 Ea (1 ea)	230-HandFinish	
MS21043-6 (5001968)	Nut	4 Ea (4 ea)	230-HandFinish	
MS21083C8 (5001969)	Nut	1 Ea (1 ea)	230-HandFinish	
NAS1149C0332R (5001971)	Washer	38 Ea (38 ea)	230-HandFinish	
NAS1149C0832R (5001972)	Washer	1 Ea (1 ea)	230-HandFinish	
NAS1515H3L (5001977)	Washer	4 Ea (4 ea)	230-HandFinish	
NAS1611-010 (5001980)	O-Ring	8 Ea (8 ea)	230-HandFinish	
NAS1611-013 (F1137963-6)	O-Ring	8 Ea (8 ea)	230-HandFinish	
AN8C21A 5010237	Bolt	2 Ea (2 ea)	250-Packaging	
D2741 5010234	Replacement Blade	1 Ea (1 ea)	250-Packaging	
D3493-1 5010233	Washer	2 Ea (2 ea)	250-Packaging	
D3532-1 165389	Spacer	2 Ea (2 ea)	250-Packaging	
MS21083C8 5010226	Nut	2 Ea (2 ea)	250-Packaging	
NAS1149D0863J 5010224	Washer	2 Ea (2 ea)	250-Packaging	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D350-636-011 B165073	1	1	0	0
160-Skidtubes	ALS4-1032-225	38	0	0	0
230-HandFinish	AN3C5A	34	0	0	0
	AN3C6A	4	0	0	0
	AN6C44A	4	0	0	0
	AN8C35A	1	0	0	0
	D2745	8	0	0	0
	D3488-041	1	0	0	0
	D3492-1	8	0	0	0
	D3492-3	8	0	0	0
	D3535-25	1	0	0	0
	D3536-25	1	0	0	0
	D3537-1	3	0	0	0
	D3631-1	8	0	0	0
	D3791-1	1	0	0	0
	D3793-1	1	0	0	0
	D3793-3	1	0	0	0
	D3794-1	1	0	0	0
	D3794-3	1	0	0	0
	MS21043-6	4	0	0	0
	MS21083C8	1	0	0	0
	NAS1149C0332R	38	0	0	0
	NAS1149C0832R	1	0	0	0
	NAS1515H3L	4	0	0	0

250-Packaging	NAS1611-010	8	0	0	0
	NAS1611-013	8	0	0	0
	AN8C21A	2	0	0	0
	D2741	1	0	0	0
	D3493-1	2	0	0	0
	D3532-1	2	0	0	0
	MS21083C8	2	0	0	0
	NAS1149D0863J	2	0	0	0
Part Specifications					
Specifications could not be found.					

Plex 10/1/17 1:51 PM Dart.Baker.Diane

Work Order Summary

Thursday, September 28, 2017 9:05:43 AM

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Criteria : Work Order ID: 165073 Item ID: D350-636-011 Product Family SKIDTUBES
Work Order Start Dates 8/21/2017 to 8/21/2017 11:59:59 PM Work Order Required Dates 8/31/2017 to 8/31/2017 11:59:59 PM
All References
Work Order Status Released

Work Order ID	165073	Required Qty	1.0000	Status Code	Released
Item ID	D350-636-011	Accepted Qty	0.0000	Scrap Qty	0.0000
Item Name	Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.				
Current Acct Value	\$2,094.248				
Start Date	8/21/2017	Required Date	8/31/2017	Completed Date	
Standard	** Actual **		** Acct. Value **	** Variance **	** Variance % **
Direct Costs	Total	Each	Each	Each	Each
Material	\$58.404	\$0.000	\$264.229	\$264.229	100.00%
Labor	\$295.432	\$0.000	\$554.242	\$554.242	100.00%
Outplant	\$0.000	\$0.000	\$27.508	\$27.508	100.00%
Variable Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Fixed Burden	\$634.995	\$0.000	\$1,251.854	\$1,251.854	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$988.831	\$0.000	\$2,097.834	\$2,097.834	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
D2600-3-BENT-LH Extrusion Bent LH	1.0000		8/16/2017	1.0000	\$97.005
D2739 350 I Beam	1.0000		8/24/2017	1.0000	\$93.684
D2743 Crossbolt Spacer	8.0000		8/24/2017	8.0000	\$59.512
D2744 Cap	1.0000		8/16/2017	1.0000	\$3.498
D3490-1 Cross Bolt Spacer	4.0000		8/24/2017	4.0000	\$10.025
D3490-3 Cross Bolt Spacer	4.0000		8/24/2017	4.0000	\$34.036
Total Matl Amts:					\$297.760

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
LECO02		8/23/2017										
140			0.00	0.00	1.73	0.58	3.00	\$0.000	\$12.567	\$31.368	\$0.000	\$43.935

Thursday, September 28, 2017 9:05:43 AM

Work Order Summary

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8/31/2017												
190			0.00	0.00	0.91	0.30	3.00	\$0.000	\$6.626	\$16.539	\$0.000	\$23.165
Total:			0.00	0.00	2.64	0.88	6.00	\$0.000	\$19.193	\$47.907	\$0.000	\$67.100

Work Center Skidtubes												
Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
ELLI01												
8/16/2017												
110			0.00	0.00	0.74	0.74	1.00	\$0.000	\$19.255	\$37.370	\$0.000	\$56.625
110			0.00	0.00	1.24	1.24	1.00	\$0.000	\$32.273	\$62.635	\$0.000	\$94.908
8/21/2017												
110			0.00	0.00	0.46	0.46	1.00	\$0.000	\$12.026	\$23.341	\$0.000	\$35.368
8/23/2017												
160			0.00	0.00	1.29	1.29	1.00	\$0.000	\$33.501	\$65.019	\$0.000	\$98.520
8/24/2017												
160			0.00	0.00	1.73	1.73	1.00	\$0.000	\$45.064	\$87.461	\$0.000	\$132.525
grou01												
8/25/2017												
160			0.00	0.00	0.59	0.59	1.00	\$0.000	\$15.222	\$29.543	\$0.000	\$44.764
8/28/2017												
160			0.00	0.00	1.58	1.58	1.00	\$0.000	\$40.982	\$79.538	\$0.000	\$120.519
Total:			0.00	0.00	7.62	7.62	7.00	\$0.000	\$198.322	\$384.906	\$0.000	\$583.228

Work Center SprayPaint												
Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
SHEL02												
9/11/2017												
200			0.00	0.00	0.56	0.14	4.00	\$0.000	\$2.596	\$8.558	\$0.000	\$11.154
200			0.00	0.00	1.48	0.37	4.00	\$0.000	\$6.887	\$22.703	\$0.000	\$29.590
Total:			0.00	0.00	2.04	0.51	8.00	\$0.000	\$9.483	\$31.261	\$0.000	\$40.744

euro warehouse Sept 8

Work Order ID 165073

165073

Page 1

Item ID: D350-636-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/31/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

AUG 15 2017

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2750-041

G

SP

100

Document Control

0.00

100

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

record fwd angle:

89.9°

Photocopy blue file and type labels per PPP D350-636-011 CHG 007

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : _____							

Monday, August 14, 2017 3:56:58 PM

165073

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 8/31/2017 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

OC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Operation Description

Set Up/ Run Hours

Tool ID**Tool #****Plan
Code**

**Accept
Qty**

Reject
Qty

Reject Number

**Insp.
Stamp**

110

0.00

110

Skidtubes

0.82

Skidtubes

Skidtubes

Memo

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750-1

3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side.

*****ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP
WHEN DRILLING FIRST SIDE*****

Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for 2nd side only DT8863B for first side (detail B)

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE.

5-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

6-Open up holes of Detail A to 0.297" (total of 2 holes per side)

7-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: ML3763 BE 17-08-16

DE 17-08-16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																													
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Root Cause</th> <th colspan="3" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">Environment ☐</td> <td style="width: 15%;">No Re-verification ☐</td> <td style="width: 15%;">Pressure/Forced ☐</td> <td style="width: 15%;">Temperature/Cure ☐</td> <td style="width: 15%;">Power Loss/Surge ☐</td> <td style="width: 15%;">Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="4" rowspan="2" style="vertical-align: top;">OTHER : _____</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </tbody> </table>						Root Cause			FAULT CATEGORY			Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				Misidentified ☐	Past Due ☐
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Work Order ID 165073

Monday, August 14, 2017 3:56:58 PM

165073

Page 3

Item ID: D350-636-011**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.**Start Date:** 8/21/2017 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 8/31/2017 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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8-Grind welds flush as per Dwg D2750

861708.16

120

QC10- Inspect visual per QSI004- ground welds 0.00

120

QC

Quality Control

Memo

0.00

130

QC5- Inspect part completeness to step on W/O 0.00

130

QC

Quality Control

Memo

0.02

DAS

38

9-89

AUG 22 2017

DAS

38

9-89

AUG 22 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Page 4

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
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OTHER : _____					

Work Order ID 165073

Monday, August 14, 2017 3:56:58 PM

165073

Page 5

Item ID: D350-636-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/31/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160

0.00

160

Skidtubes

Skidtubes

Memo

1.08

Skidtubes

1-Open up holes using hole saw of Detail C and ground handling to 0.625"
(total of 8 holes per side)
as per dwg D2750.

2-Open up holes using hole saw of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole using un-bit to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI015 let cure for 12hrs.

A/R Sikaflex-291

batch: 137946

exp. date: 18-03-29

ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R Aluminum Rod

batch: M137133

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

8617-08-23

8617-08-24

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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OTHER : _____																																																															

Work Order ID 165073

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165073

Page 6

Item ID: D350-636-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/31/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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10-Grind welds flush as per Dwg D2750

- MGB 17/08/25

11-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750

12-Deburr holes, ensure tube is free of all scratches before sending to paint.

17/08/28

170

QC10- Inspect visual per QSI004- ground welds 0.00

170

QC

Quality Control

Memo

0.00

DAS
38
2.88
AUG 30 2017

180

QC5- Inspect part completeness to step on W/O 0.00

180

QC

Quality Control

Memo

0.02

VERIFY C'BOARD IS GOOD

DAS
38
2.88
AUG 30 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
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OTHER : ☐					

Work Order ID 165073

Monday, August 14, 2017 3:56:58 PM

165073

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Item ID: D350-636-011 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
 Start Date: 8/21/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 8/31/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.44							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								SSC BET
200	Spray Painting per QSI005 4.2	0.00							
200									
SprayPaint	Memo	0.34							
Spray Painting	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: <u>137195</u>								
	2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: <u>138396</u>								
210	QC14- Inspect Spray Paint	0.00							
210									
QC	Memo	0.00							
Quality Control	Inspect for foreign object per QSI 024								

① 2017-08-31
SSC
BET

1 DAS 41 9-89
SEP 11 2017

144 d 12/10/15
DAS 15 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 165073

165073

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Item ID: D350-636-011 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
 Start Date: 8/21/2017 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 8/31/2017 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230 *230* HandFinish Hand Finishing	Assemble as per dwg HandFinishing Memo 1- Install inserts as per Dwg D2750 2-Inspect for Foreign Objects 3- Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>138535</u> EXP DATE: <u>18/04</u> 4- Assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>1135477</u> 5- Coat all exposed fasteners with "LPS Procyon" batch: <u>1133690</u> <u>RTV 598</u> <u>M138421</u> <u>Exp 18/05</u>	0.00 1.32							
240 *240* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.02							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Work Order ID 165073

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165073

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Item ID: D350-636-011**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.**Start Date:** 8/21/2017 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 8/31/2017 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Pick Kit	0.00							
250									
Packaging	Memo	0.01							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
260									
QC	Memo	0.03							
Quality Control	*****ensure antiseize is on AN8C21A bolts*****								
270	Identify as per dwg & Stock Location: _____	0.00							
270	Packaging								
Packaging	Memo	0.00							
Packaging	Package as per PPP D350-636-011 Location : FG072								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

***Picklist Print**

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:I 02.09.25 Rearranged procedure steps KJ
IPP Rev:J 06-03-23 As per Rev D JLM
IPP Rev:K 06-07.13 As per dsi9343 EC
IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC
IPP Rev:M 08-04-22 update steps 4, 13 DD verified by:EC
IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec
IPP Rev:O 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010
DD verf:EC IPP Rev:P 10.06.22 revise
seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH
DD verf:EC IPP REV:R 13.08.27 PER ECN13-594 DD
VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3492-1		Manufactured	No			230	Each	8.0000	8	8			
D3492-1									**				
Plug													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				8					
				158389				1					
				161306				7					
D3492-3		Manufactured	No			230	Each	82.0000	8	8			
D3492-3									**				
Plug													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				82					
				159296				82					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased

No

250

Each

234.0000

2

2

NAS1149D0863.J

**

Washer

LocationLoc QtyLoc Code

FP001

46

125484

46

ST260a

100

125635

100

ST263

88

125268

88

NAS1611-010

Purchased

No

230

Each

167.0000

8

8

NAS1611-010

**

O-RING

LocationLoc QtyLoc Code

FP001

167

m134955

7

m135603

8

m136182

4

m136836

4

m137587

100

m137963

44

D2744

Manufactured

No

110

Each

10.0000

1

1

D2744

**

Cap

LocationLoc QtyLoc Code

LG001

10

161732

10

***Picklist Print**

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Page 3

Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT-LH

Manufactured No

110

Each

8.0000

1

1

D2600-3-BENT-LH

**

Extrusion Bent LH

LocationLoc QtyLoc Code

LG002

8

161684

3

163310

5

D2743

Manufactured No

160

Each

147.0000

8

8

D2743

**

Crossbolt Spacer

LocationLoc QtyLoc Code

LG001

147

160400

84

163859

63

D2739

Manufactured No

160

Each

9.0000

1

1

D2739

**

350 I Beam

LocationLoc QtyLoc Code

LG002

9

161380

1

163537

3

163988

5

D3490-3

Manufactured No

160

Each

39.0000

4

4

D3490-3

**

Cross Bolt Spacer

LocationLoc QtyLoc Code

LG001

39

160393

39

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

D3490-1

Manufactured No

160

Each

51.0000

4

4

D3490-1

Cross Bolt Spacer

**

BE17-08-24

Location

Loc Qty

Loc Code

LG001

51

160394

51

ALS4-1032-225

AELS8-1032-225 Purchased

No

160

Each

1,877.000

38

38

ALS4-1032-225

Rivnut

**

Location

Loc Qty

Loc Code

FG

55

M134975

20

M135998

5

M136579

30

FP001

1530

M135603

40

M135920

38

M135998

1441

M136265

11

ST556

292

M136579

292

D3793-3

Manufactured No

230

Each

16.0000

1

1

D3793-3

Wearplate Aft

**

Location

Loc Qty

Loc Code

FP002

16

159871

16

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

AN8C35A Purchased No 230 Each 108.0000 1 1

AN8C35A

**

Bolt

LocationLoc QtyLoc Code

FG

3

121275

3

FP001

105

m133336

1

m137203

104

D3793-1 Manufactured No 230 Each 13.0000 1 1

D3793-1

**

Wearplate Fwd

LocationLoc QtyLoc Code

FP002

13

159874

13

D3488-041 Manufactured No 230 Each 11.0000 1 1

D3488-041

**

Blade Fitting LH

LocationLoc QtyLoc Code

FP001

11

160603

5

162409

1

163322

5

D3794-3 Manufactured No 230 Each 11.0000 1 1

D3794-3

**

Gasket Aft

LocationLoc QtyLoc Code

FP001

11

159369

11

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

584.0000

4

4

AN6C44A

**

Bolt

LocationLoc QtyLoc Code

CCK007

276

m138009

276

FP001

14

m132556

14

over009

250

m137055

250

ST333

44

m136658

44

MS21083C8

Purchased

No

230

Each

52.0000

1

1

MS21083C8

**

Nut

LocationLoc QtyLoc Code

FP001

2

m137412

2

ST297

50

m137820

10

m137963

20

m138238

20

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

D3536-25

Manufactured No

230

Each

25.0000

1

1

D3536-25

**

Gasket Center

LocationLoc QtyLoc Code

FG

8

162506

5

95328

3

FP001

17

146747

2

159368

1

162506

1

164082

13

D3631-1

Manufactured No

230

Each

119.0000

8

8

D3631-1

**

Washer

LocationLoc QtyLoc Code

FP001

119

160124

19

163247

100

D3791-1

Manufactured No

230

Each

16.0000

1

1

D3791-1

**

Wearpad

LocationLoc QtyLoc Code

FP002

16

161928

7

163442

9

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

230

Each

5,224.000

38

38

NAS1149C0332R

WASHER

Location

Loc Qty

Loc Code

FP001

290

m137951

290

GA

482

m133284

22

m136444

460

ST260a

3946

m137851

1946

m138207

1000

m138237

1000

ST266

506

m137381

506

D2745

Manufactured

No

230

Each

108.0000

8

8

D2745

Bushing

Location

Loc Qty

Loc Code

FP001

108

159297

4

161760

100

163474

4

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

923.0000

34

34

AN3C5A

**

Bolt

LocationLoc QtyLoc Code

FG

5

122800

5

FP001

61

M137361

61

OVER002

800

M137710

200

M137963

600

ST350

57

M135442

57

D3537-1

Manufactured

No

230

Each

213.0000

3

3

D3537-1

**

Wearpad

LocationLoc QtyLoc Code

FG

11

79833

1

88562

10

FP001

202

141922

7

147593

5

154226

1

159356

6

162602

40

162920

40

163518

39

164254

30

164278

34

Picklist Print

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Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0832R

Purchased

No

230

Each

33.0000

1

1

NAS1149C0832R

**

Washer

LocationLoc QtyLoc Code

FP001

33

m135536

33

AN3C6A

Purchased

No

230

Each

173.0000

4

4

AN3C6A

**

Bolt

LocationLoc QtyLoc Code

FG

10

122416

10

FP001

53

m136295

4

m136781

13

m138040

36

OVER002

96

m137361

96

ST350

14

m128704

14

NAS1611-013

Purchased

No

230

Each

138.0000

8

8

NAS1611-013

**

O-Ring

LocationLoc QtyLoc Code

FP001

138

m137333

70

m137963

68

Picklist Print

Monday, August 14, 2017 3:56:58 PM

Page 11

Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230

Each

17.0000

1

1

D3535-25

**

Wearplate Center

LocationLoc QtyLoc Code

FG

5

148669

1

159879

4

FP002

12

163710

12

D3794-1

Manufactured No

230

Each

21.0000

1

1

D3794-1

**

Gasket Fwd

LocationLoc QtyLoc Code

FP001

21

163497

8

163934

13

MS21043-6

Purchased No

230

Each

62.0000

4

4

MS21043-6

**

NUT

LocationLoc QtyLoc Code

FG

20

103693

20

FP001

28

m135470

2

m138040

26

ST302

14

m137479

14

Picklist Print

Monday, August 14, 2017 3:56:58 PM

Page 12

Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250

Each

25.0000

2

2

D3493-1

**

Washer

LocationLoc QtyLoc Code

FG

10

97201

10

ST037

15

161754

15

***ONLY INSTALL IF INSTALLING ON APICAL
FLOAT SYSTEM***

MS21083C8

Purchased No

250

Each

52.0000

2

2

MS21083C8

**

Nut

LocationLoc QtyLoc Code

FP001

2

m137412

2

ST297

50

m137820

10

m137963

20

m138238

20

AN8C21A

Purchased No

250

Each

268.0000

2

2

AN8C21A

**

Bolt

LocationLoc QtyLoc Code

FG

4

123966

2

m132169

2

over004

165

m137162

165

ST332

99

m136262

1

m137162

98

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Shop Packet Print

Page 12

Picklist Print

Monday, August 14, 2017 3:56:58 PM

Page 13

Work Order ID: 165073

165073

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 8/21/2017

Required Date: 8/31/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

339.0000

4

4

***NAS1515H3L ***

**

Washer

Location

Loc Qty

Loc Code

FG

40

102472

40

FP001

295

m127831

20

m134508

3

m135600

2

m136263

4

m137361

266

ST266

4

m130726

4

D2741

Manufactured

No

250

Each

26.0000

1

1

***D2741 ***

**

Replacement Blade

Location

Loc Qty

Loc Code

FG

10

131616

10

ST538

16

132981

14

158915

2

D3532-1

Manufactured

No

250

Each

21.0000

2

2

***D3532-1 ***

**

Spacer

Location

Loc Qty

Loc Code

ST038

21

159312

21

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
- FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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WORK ORDER
NO. 165073
AUG 15 2017

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2013-08-13
ND

G	CORRECTED TOLERANCE ON $\phi 0.500$ THRU HOLE: IS $+0.010/-0.000$, WAS $+0.100/-0.000$ (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-4-6/8/-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3; REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
F	INCORPORATE DSI B413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/FT SADDLE REMOVED (B PL); WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A8-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MM		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.07.11		

DART AEROSPACE USA, INC.

KENT, WA

DRAWING NO.

D2750

REV. G

SHEET 1 OF 11

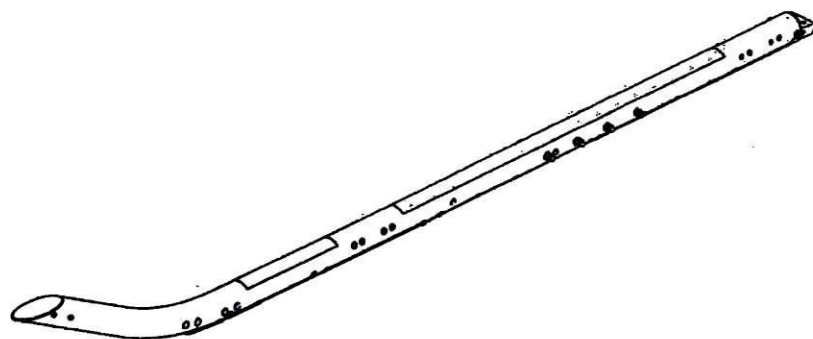
TITLE

350 SKIDTUBE ASSEMBLY

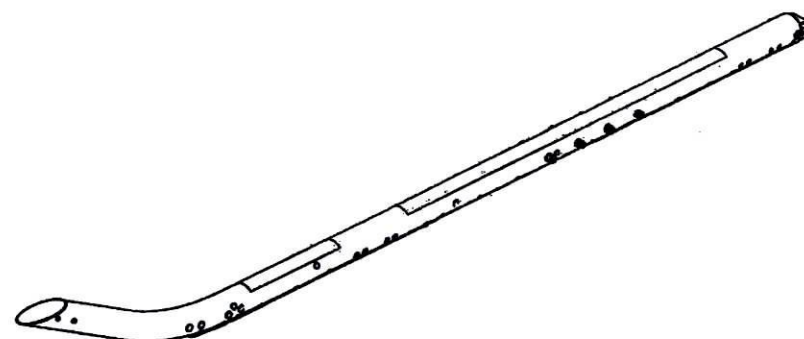
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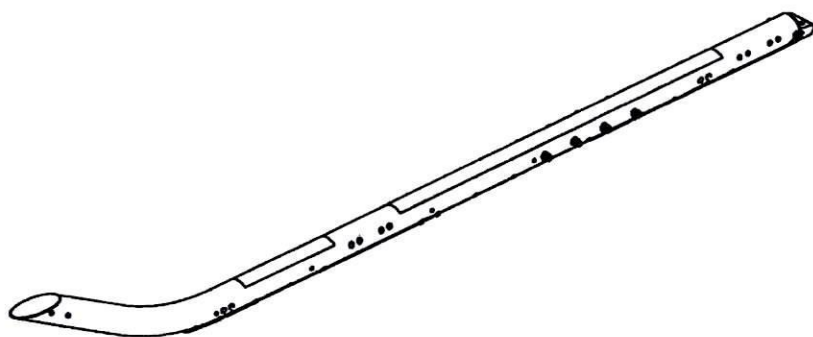
D2750-041 350 SKIDTUBE ASSEMBLY, LH



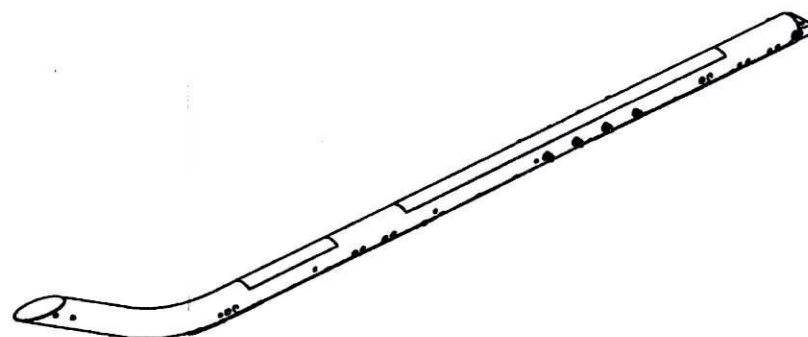
D2750-042 350 SKIDTUBE ASSEMBLY, RH

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DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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D2750-043 350 SKIDTUBE ASSEMBLY, LH

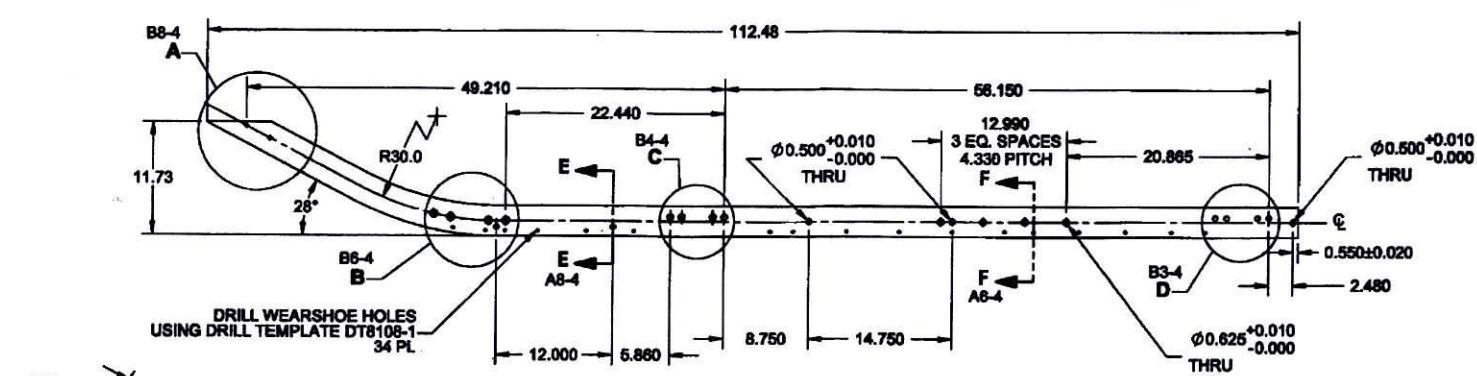


D2750-044 350 SKIDTUBE ASSEMBLY, RH

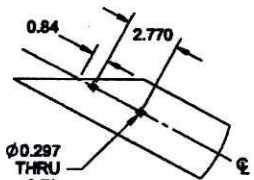
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DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
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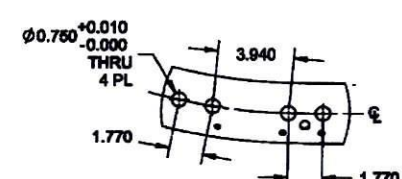
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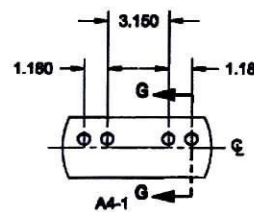
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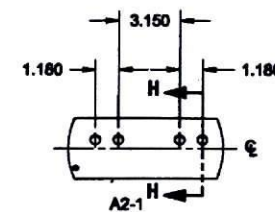
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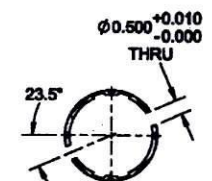
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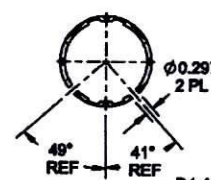
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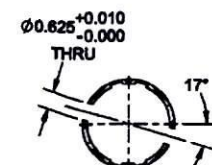
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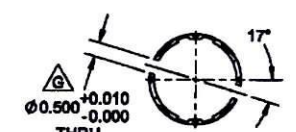
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SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



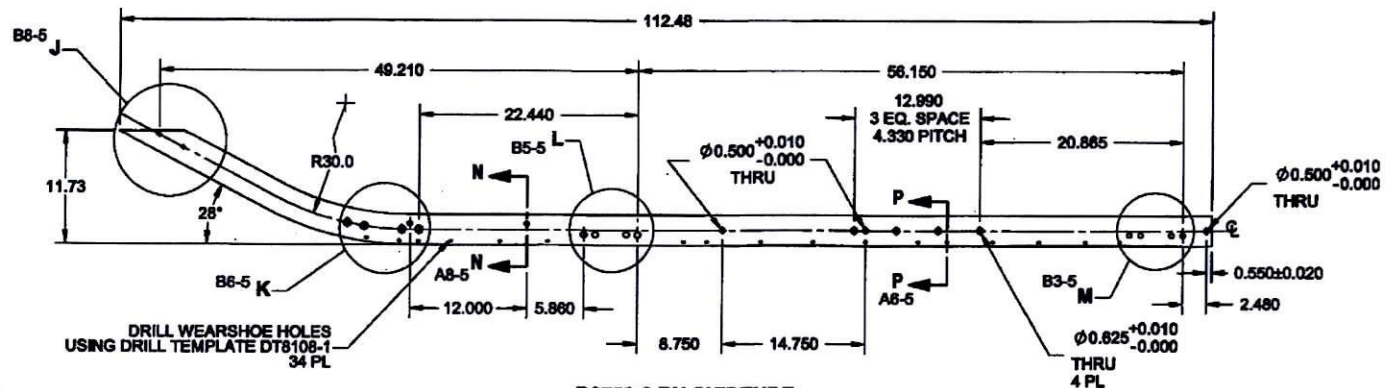
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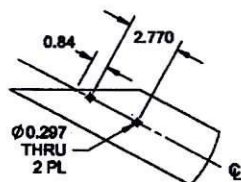
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DATE	13.07.11	NTS	

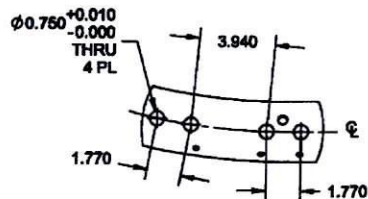
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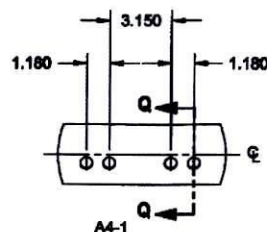
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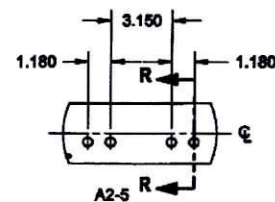
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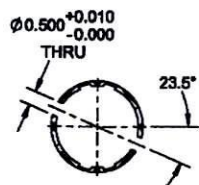
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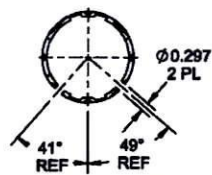
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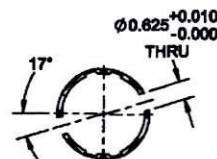
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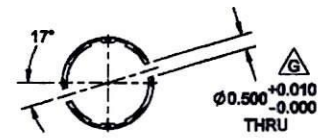
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SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



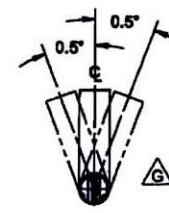
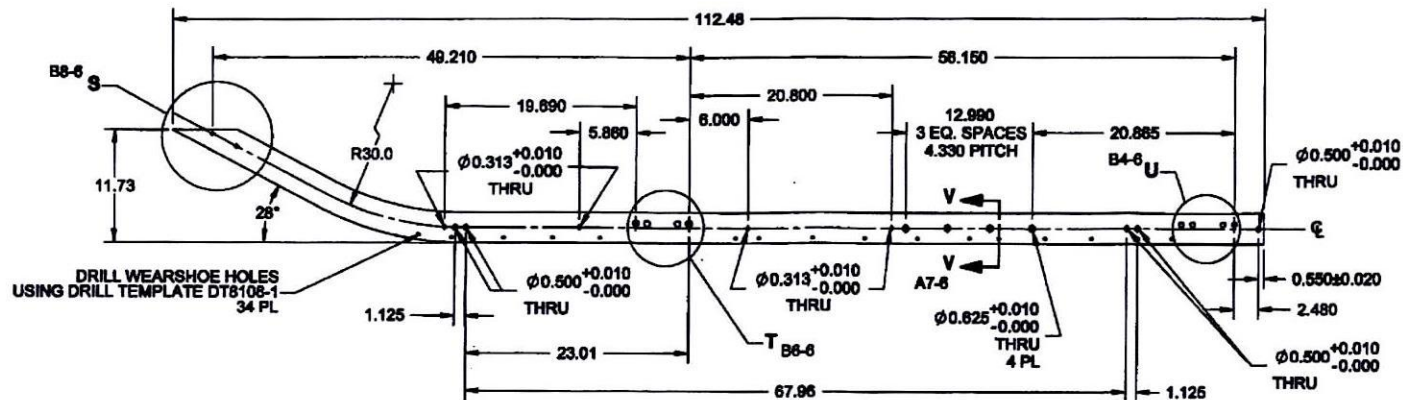
SECTION R-R
SCALE 3X, 4 PL

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DE APPR.		350 SKIDTUBE ASSEMBLY	
DATE	13.07.11	NTS	

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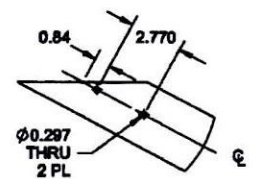
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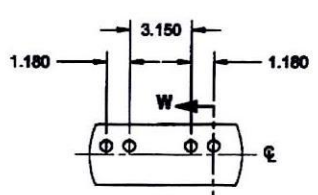


OUTBD
MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)

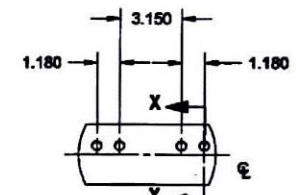
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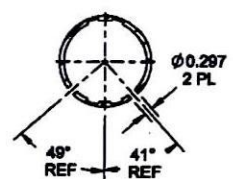
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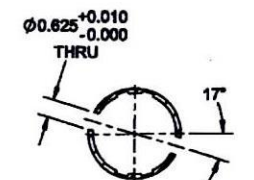
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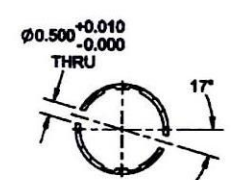
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SCALE 2X
D3-6



SECTION V-V
SCALE 3X, 17 PL
C4-6



SECTION W-W
SCALE 3X, 4 PL
B8-6



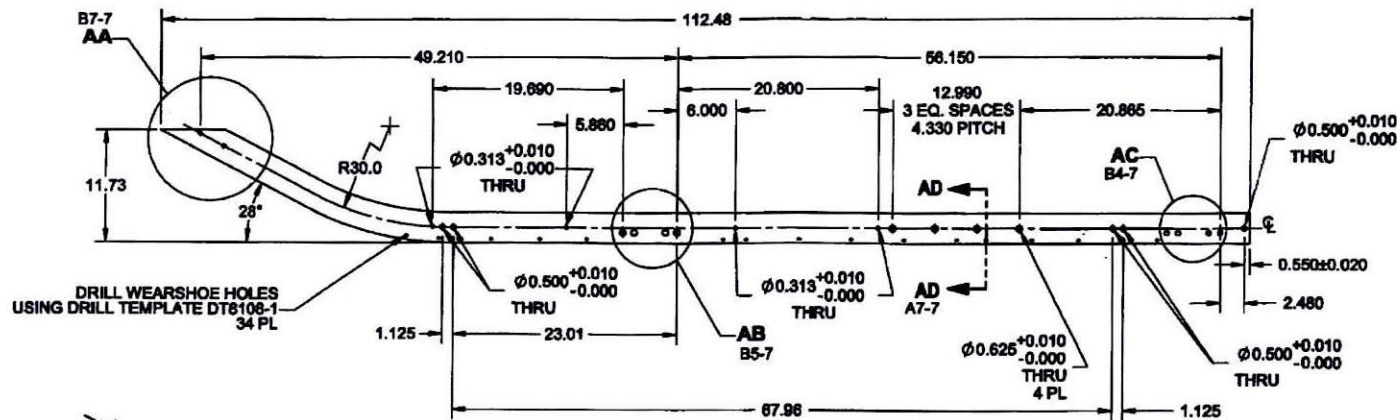
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SCALE 3X, 4 PL
B4-6

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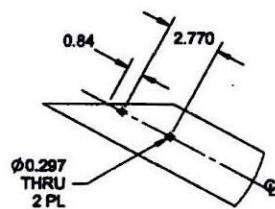
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MFG. APPR.		REV. G
APPROVED		SHEET 6 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	13.07.11	SCALE NTS

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ALL DIMENSIONS ARE TO BE MAINTAINED UNLESS OTHERWISE SPECIFIED.

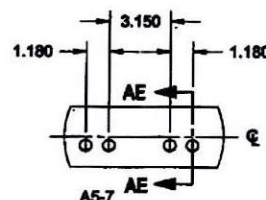
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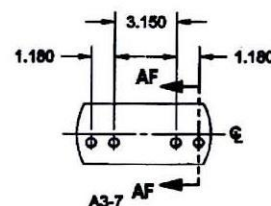
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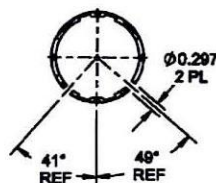
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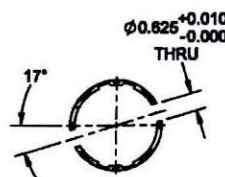
DETAIL AB
SCALE 2X



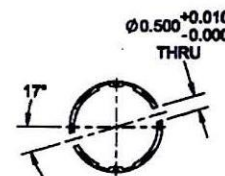
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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